

MASSACHUSETTS PLOUGHMAN

DEVOTED TO AGRICULTURE
HORTICULTURE, THE FARM
AND THE GARDEN.

NEW ENGLAND

AGRICULTURE

JOURNAL OF

VOL. LX. - NO. 18.

BOSTON, MASS., SATURDAY, JANUARY 26, 1901.

WHOLE NO. 3081.

MASSACHUSETTS PLOUGHMAN
PUBLISHED WEEKLY AT
NO. 3 STATE STREET,
BOSTON, MASS.

MASSACHUSETTS PLOUGHMAN PUB. CO.,
Publishers and Proprietors,
N. DARLING, Secretary.
NEW YORK OFFICE,
150 NASSAU STREET, NEW YORK CITY

TERMS:
\$2.00 per annum, in advance. \$2.50 if not
paid in advance. Postage free. Single copies
5 cents.

No paper discontinued, except at the option of the
proprietor until all arrearages are paid.
All persons sending contributions to THE
PLOUGHMAN for use in its columns must sign
their name, not necessarily for publication, but
as a guarantee of good faith, otherwise they will
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intended for publication should be written on
note size paper, with ink, and upon but one side.

Correspondence from particular farmers, giving
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Letters should be signed with the writer's real
name, in full, which will be printed or not, at
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THE PLOUGHMAN offers great advantages to ad-
vertisers. Its circulation is large and among the
most active and intelligent portion of the com-
munity.

AGRICULTURAL.

Soil Exhaustion.

In a bulletin issued by the Massachusetts
Board of Agriculture last October is an
essay by George E. Stone, professor of
botany at the Massachusetts Agricultural
College, in which he treats of soil ex-
haustion, which we will try to condense for the
benefit of our readers.

By the loss of our forests and long cul-
tivation, the conditions of our soils have been
greatly modified from their primitive
condition. These changes are both in
chemical composition and physical prop-
erties. In general, one cannot be obtained
without changing the other, and one is
equally important with the other. The
soil may contain tons of plant food which
are not available, or the mechanical con-
dition may be such that the feeding roots
cannot reach to and assimilate the food
there.

There is much difference in plants as to
their adaptability to the soil, some growing
in almost any soil, and others requiring that
the particles should be of such size and so
arranged that air spaces are formed suitable
to the wants of the particular plant. The
water-retaining capacity of the soil depends
also upon its physical properties. The
light, sandy soil of Cape Cod may retain 35
per cent. of water, while the heavier inland
soils may have 60 to 70 per cent.

A soil that will grow lettuce may not be
adapted to onions, and that which grows
good potatoes might not be suited to to-
bacco. This may be noticed in the growth
of our native plants. The white birch,
pitch pine and scrub oak are found upon dry,
sandy or gravelly soils, and but seldom
found on heavy clay soils. Many plants
are so particular as to their soils that when
they are found one may know the character
of the soil, if he knows their habits, with-
out further examination.

We have heard much in the last 10 years
about abandoned farms and worn-out soils,
and it is well known that many of these
were once fertile lands. The wild plants
are to the botanist indications of the
changes that have taken place. Plants once
common in certain localities have fallen off
very much during 50 or 100 years. The
most notable of these is the wild strawberry.
One could scarcely find a plant of these in a
half day in Massachusetts now, while Roger
Williams in 1645 said he had "many times
seen as many as would fill a good ship
within a few miles compass," and men now
living say that in certain localities they
could get a half bushel in few hours 75 years
ago where now a girl cannot be found.

Many of our native grasses are nearly
run out, and among the trees the beech,
chestnut and hemlock are less common,
the latter having fallen off enormously.
Whiteoak plants as the orchids, ginseng,
blueberry bush, and a host of others are less
common in certain localities, as is evident
to those who have taken pains to study the
present and past distribution of these spe-
cies.

The cause of this is the decrease on the
one hand of the soil and its associated
humus compounds. There are other causes,
however, in the case of the hemlock, where the
light conditions are not favorable to the
growth of the seedlings. In samples of soil
in water free condition that which ap-
proaches to a primitive condition had 31
per cent. of organic matter at the surface
and below the surface 20 per cent. The sur-
face soil was black, and but little lighter at
depths below. A heavy soil in waste
land had but five per cent. at the surface
and 10 per cent. below. It had a dark color
on the surface but was yellow below, and
showed a growth of inferior grasses,
golden rods, etc. A greenhouse soil
adapted to forcing lettuce had 15 per cent.
at the surface, and practically the same to
12 or 15 inches below, the organic matter
being supplied by manure and decay of
roots.

The plants which are becoming rare are
those only found where the soil approaches
the primitive condition, and even then they
are not of the same luxuriant growth as
before. When the organic matter is reduced
the capacity for retaining water is lessened,

and the available plant food also is less.
Then plants that formerly grew disappear,
and we find the white birch, poplar, bush
clover, golden rods, beard's grass, Indian
grass, etc.

At the time of the early settlements there
were woodlands containing fine growths of
trees, forming forests difficult to penetrate,
with here and there open fields with native
grasses and herbaceous plants growing
luxuriantly. The large river valleys were
noted as free from forest growth. Some of
the clay hills had been cleared by the
Indians and used for agricultural purposes.
Large tracts of forests were cut and burned
by the early settlers, and while the wood
ashes helped to bring in remarkable crops
of white clover, organic matter from the
debris of years of centuries was destroyed.
The methods of farming have not been such
as to restore this, but well tilled to farther
deplete the soil.

fodder and other food cannot be trusted
to any extent the intelligent owner. Now
it goes without saying that with plenty of
food provided for the sheep at all seasons
of the year, good shelter, and fair stock to
begin with, the work of increasing the herd
and the mutton and wool supply is not very
difficult or complicated. The rub comes in
to find sufficient nourishing food for the
sheep at all seasons of the year at relatively
low cost.

To do this the owner must become a crop
farmer. He must give up his best time and
thought to the planting of crops to supply
the sheep with proper food. In some quar-
ters there is a notion that sheep raising
consists of turning loose a flock of sheep on
a large range and letting them increase by
the natural method. Of course there must
be a little watching to see that does do not
kill the lambs, and other shepherds do not
drive off the sheep. I suppose some

In speaking of the stand which the Ver-
mont experiment station has taken in the
matter of this year's apple market, the
director says that it should be distinctly
understood that the station does not pre-
tend to be a bureau of statistics nor a
proprietor of prices. It is not organized with
any such purpose in view. But in the case
of this year's apple crop it was so perfectly
evident to any one who could see the situa-
tion that prices were abnormally low, that
no statistical inquiry was necessary to
predict the course of the market. Prices
were bound to go up. The indisputable
facts underlying the situation were pointed
out by the horticulturists of the station
in a circular sent to the papers of Vermont
and vicinity on Oct. 13, and were so con-
vincing in themselves that they did not
need any official authority to add to their
evidence. The wonder is that any one, after
having these facts pointed out, could still

make. The factorymen were too unwill-
ing to select out culls from a lot, and thus
instead of a cut of one cent a pound on five
or six boxes they had to bear a cut of one
half cent on lots of 100 boxes.

He also alluded to the lack of uniformity
in weight. In boxes from a single factory
that should have been 100 pounds each he
had often found them varying from 60 to
85 pounds. English buyers would not
believe they were all from one factory, and
would only take them as a mixed lot at a
cut in price. Not infrequently a 50 pound
cheese was put in a 60 pound box, and he
strongly endorsed what Professor Raddick
had said about bad boxes.

In the afternoon Professor Raddick had
three June cheeses on exhibition which had
been carried in cold storage in Montreal up
to October. No. 1 cured in room with per-
fect curing facilities, where the temperature
was kept below 65°, was valued at 10 cents

of view of cost and final results this policy
would be a mistake. Coarse, bulky food is
essential to the proper growth and develop-
ment of all farm animals, and with a little
preparation this can be provided for the
animals the whole year round. Expert
men made in feeding show that the best
ration is one that includes a great variety
of bulky food, mixed with fine concentrated
food sufficiently to make the balance a sens-
ible one. The ratio of the two must of
course differ according to the relative nour-
ishing qualities of the coarse food. Clover
contains many of the essential ingredients
for forming muscle, bone and strength, but
corn fodder, beans and good timothy hay
furnish nutriment in different proportions.
A consistent ratio of grain, however, can
be adopted for the winter and summer
season, and then with liberal feeding of
coarse fodder, roots and succulent food the
animals are sure to thrive and fatten with-
out much forcing. The normal growth of
farm animals is after all the most desirable,
for in this way they build up an excellent
constitution, which later will be in good
form for fattening for the market.

Prof. JAMES S. DOTY.

New York.

Capacity of Farm Machinery.

A correspondent of the New York Trib-
une says of the modern harvester and
binders that one and binds a swath of six
to seven feet wide, which are the successful
and popular size, that they cut about an
acre an hour. With the old fashioned
cradle a good man would cut from 2 1/2
to three acres in a day, and a good man would
bind as much, so that the man with the
machine would do in ten hours four times
as much as two men in the old way, or the
machine is equal to the work of about seven
men in ten hours. There are what are
called "headers," which cut and
bind 10 or 12 feet in a swath, but they
are not in common use. Other head-
ers cut from 14 to 18 feet wide,
but do not bind, delivering it into
header wagons, from which it is
stacked and threshed from the stack.
Some of the larger grain farms have what
is called the "combined harvester," cut-
ting the heads from a swath of 18 to 40 feet
in width, threshing, cleaning and bagging
it, all at one operation. But the larger the
capacity of the machine the greater the
power required to operate it, and the cost
of labor is not so much reduced, as it is
changed from man power to horse power or
steam power. The machines make it
possible to harvest wheat enough to supply
the world within the time that it is in the
best condition to harvest, and the men who
would have been required to do all this by
the old methods can now work in forest
forge or factory.

Advertising Placards.

An Australian journal remarks that every
one knows how our American consuls excel
as advertisers, and that the agricultural
machinery people take a rank second to
none in this respect. The method does not
bring the best results everywhere, however,
as an American firm recently discovered.
They issued a number of show cards rep-
resenting the beautiful flesh-tinted Goddess
of Liberty arrayed in scanty garments,
driving a harvester drawn by a pair of
mighty black and orange tigers, and for-
warded a number to their German agents,
who returned them, however, with the fol-
lowing letter written as a German might
write in English:

"The picture of your admirable machines,
of which I have the receipt and knowledge, is not
useful in this country, and it is of much
regret to me that I request to return them
permission. The women of our country,
when by circumstances to do agricultural
work compelled, do not dress as your pic-
ture shows. In the custom in your wonderful
country, and would not deem such garments
with modesty to consist."

"Also we do not tigers for draught pur-
poses cultivate, they not being to the coun-
try native, nor in our experience for such
work well suited. I have to my customers
explained with earnestness that your
picture is an allegory, and does not mean
that your admirable machine should be
operated by women too little clothed, nor
is it necessary that the place of horses should
be animals from the Zoological Garden be-
taken. I cannot use the cards, as you in-
struct and your further advice respectfully
await."

Apples and Pears in France.

The Assistant Pomologist of the Depart-
ment of Agriculture, Mr. W. A. Taylor, has
two specimens of French fruit lying on his
desk, which if they could be reproduced in
this country and sold at the prevailing
Paris prices, would net a small fortune per
tree to the orchardist. One is a yellow
French apple, weighing about 12 or 14
ounces, which is selling now in France at
35 cents per apple, by the hundred. These
apples are counted like eggs; not sold by the
bushel, peck or quarter peck as are choice
apples here. The other specimen is a
French pear which weighs 26 ounces, a
monster fruit, which more resembles a
small pumpkin of some kind than a
pear. The flesh of both these fruits is
said to be very delicious. It seems
singular that the French do not prize
red apples. At the Exposition, the judges
could not believe that American red apples
could be first class, but Mr. Taylor says
they were forced to an opposite conclusion
after a practical trial of their eating qual-
ities. The French red apples, he states, are
somewhat inferior to the yellow varieties
and far inferior to our best red apples.
Notwithstanding the nearness to the French
market, American apples took most of the
prizes at Paris.



STANDARD DELAINE MERINO.

The most rational method of restoring
this organic matter at the present time is
the continual plowing in of green crops.
The cultivation of cover crops and turning
them in not only enriches the soil, but
makes its physical condition better. They
also conserve the nitrogen, and to a large
extent prevent the washing of the soil in
winter. When it has been enriched by
organic matter it retains more moisture,
and is better able to withstand drought.

No small part of the compensation for the
trouble of growing green crops consists in
keeping it weeds down. A field of corn
sowed with any crop in July is the best
guarantee the farmer can have against
weeds. If not sown it is likely to be cov-
ered with a growth of Roman wormwood,
pigweed and other undesirable growths.
A crop of red clover, sweet clover or mus-
tard may be sown after the last cultivation,
and this cut and used for feeding and the
roots plowed under just before the next
year's planting. The red clover and sweet
clover have an advantage over mustard, as
their roots have nodules containing nitro-
gen, which is added to the soil, while such
crops as rye, mustard, buckwheat, etc.,
have not the power of taking nitrogen from
the atmosphere as do the leguminous plants.

We have practiced this plan in our green-
houses, which are used for cucumbers and
lettuce in the winter, but were formerly idle
in the summer. By sowing a crop of white
lupines, which will develop in about six
weeks under these conditions, or some other
legume we add to our soil organic matter
and nitrogen, and a crop of the legumes
plowed under has been found practically equal
to the normal supply of nitrogen for the soil.

The time when these plants furnish the
most nitrogen to the soil probably is very
near that when the seed is maturing. At
the Experiment Station at Amesbury they
have tested many leguminous plants during
the past ten years, including the white
lupine, horse bean, soy bean, alfalfa, serr-
della, sweet clover, Canadian pea, and the
various clovers. Unfortunately most of
these winter kill in our climate and are not
fitted for winter covering of the soil. The
common red clover and the sweet clover
seem best suited to our climate. The red
clover does not always make sufficient
growth to be at its best for plowing under
in the spring, but the sweet clover, sown in
July at the last cultivation of the soil, is
capable of growing 12 to 15 inches high the
next May, when it may be cut for fodder
and the roots in which is stored most of the
nitrogen can then be plowed in.

The crimson clover is much used for this
purpose in the South, where it is hardy, but
it cannot be depended upon in Massachu-
setts, though it might winter in some of
our seasonless spots. There are some 28
native wild leguminous plants which might
be used in this way, but they have not been
tested to our knowledge. Among them are
the wild lupine, bush clover and vetch box,
and they are peculiar to worst soils.

Sheep Pastures.

The owner of a good flock of sheep needs
to study pastures and grasses more than
any other side of his business. The sheep
owner should be dependent upon the most
practical hay and crop farmer in the country. Hired labor at
a nominal sum can look after the sheep, and
see that they are properly fed and housed
at night, but raising of grass pastures,

owners of sheep do literally follow this
easy method, but unless they are fortu-
nately situated as regards food and climate
I do not believe they make a living. A
favorable year might enable them to make
a little profit, but an adverse season would
ruin them.

I have found in my experience that the
real problem in sheep raising is in grass
and crop farming. I study to provide the
sheep with nourishing food the year round,
and by arranging beforehand to have corn
relatively small. I do not trust to range
grass, nor to old worn out pasture fields.
New portions of the farm are seeded fresh
nearly every year. I am constantly plowing
harrowing and sowing, putting the land in
such condition that it will yield bountifully
of grass, rape, corn fodder, roots and even
grains. I make this sort of farming pay
because it promises me good returns in
the shape of good lamb and mutton and
excellent wool. Sheep and lambs pro-
vided with good food winter and summer
seldom contract disease. My losses have
been very few, and when in some
winters others are forced to sell part of
their flocks at ruinous prices on account of
the high prices for food, I have been able
not only to winter my own sheep, but to
take advantage of the conditions and buy
more at bargain prices. Several winters
ago I nearly doubled my flock in this way,
and those sheep are worth twice as much
this winter. The food question is the secret
of the wise man. Provided with plenty
of good food, the shepherd has control of
the situation, and every winter he can pick
up bargains in sheep from those with insuffi-
cient food to carry them along.

W. E. EDWARDS.

Selling Apples.

At present the apple market is all in favor
of the seller. Any man who has apples to
hand now can turn them into money at
very liberal rates.

It was not always thus. We can all of us
remember as far back as last September.
At that time there were wise men in the
land who said that apples were not worth
more than 50 or 75 cents a barrel. Some
folks seemed to think that at that price the
growers ought to furnish the barrel also,
and give a chrome with each purchase.

The wise man said that the apple crop
was larger than in 1898, and that prices
would be lower; and many growers, fright-
ened by the recollection of that bad year of
plenty, took what they could get for the
fruit and let it go to the first buyer.

The Vermont experiment station regis-
tered a strenuous protest against this policy
of hasty selling at the time, and, through
the newspapers and by private corre-
spondence, did all in its power to help the
growers to get better prices. A few
growers held their apples, but the major-
ity sold many of them needlessly soon.

Nevertheless apples have gone up steady-
ly and strongly in price, and at the present
time are selling almost at the top figure
known for this time of the year. Many lots
sold before the end of November at \$2.50 to
\$3 a barrel; and prices as high as \$3.75 to
\$4 a barrel in considerable lots have been
reported for the holiday market. Fancy
apples have sold as high as \$5 a barrel and
even higher. Those who have apples still
in storage and keeping in good condition
may expect to realize handsome figures.

have sold good apples at a dollar a bushel
or less. Evidently, in case of an excess, the
buyers were believed in preference to a
disinterested party like the experiment
station.

The high prices which apples are bring-
ing at present, compared with the low
prices which they were bringing at picking
time, has a plain moral for the apple
grower. It is that apples should be held
as late as they will keep well. And Ver-
mont apples are especially good keepers.
January, February and March are the
best months in which to sell; and the
man who is compelled to sell from the
trees or from the orchard is always more
or less at the mercy of the buyers who
through the country in the fall. In order
to hold apples successfully it is necessary
to have some sort of storage house; but a
very simple affair will do the work if it is
rightly planned and intelligently managed.
This is another point often emphasized by
the Vermont experiment station in its
various publications; and more or less
explicit directions have been published for
making and managing such storage houses.

Canadian Cheese Deteriorating.

At the meeting of the Eastern Ontario
Dairymen's Association, Jan. 10, Professor
Pablow and Professor Raddick made the
statement that the Canadian cheese had
suffered seriously in reputation during the
past year, which was corroborated by two
of the leading exporters of Montreal, who
thought it would take five years of careful
and painstaking effort to get again the
reputation it had two years ago.

Professor Pablow said it was a growing
evil to ship too green, some shipping when
the cheese was but two days old. This
resulted in a shrinkage in weight and an
inferior cheese. He thought exporters had
not cut such cheese half enough in price
for shrinkage caused by too much moisture
and whey in it.

Professor Raddick said such cheese were
called "stinkers" in the Montreal market,
an inelegant but very apt term for such
defective cheese. Flavor was the most im-
portant element in marketing cheese, and
this could not be perfect unless the milk
was of good flavor, and cheese makers
should reject all milk that was not perfect
in this respect. Bad boxes were another
injury to the market value of good cheese.

Mr. Alexander, one of the exporters, said
that the more cunning and unscrupulous
cheese makers had been selling whey in-
stead of properly perfected cheese, and that
exporters received more defective cheese
from small factories than from large ones.
In proportion to their output.

Mr. Hodgson, another exporter, said he
would like to see the days of three or four
years ago back again, when Canadian
factorymen made a sound cheese that would
keep, though he believed that no rich, fat
meaty cheese would keep well for a
reasonable length of time, and makers
should remember that, as a rule, it was
two or three months before their cheese
reached the retailers in England. He told
of one case where a factoryman had
placed a lump of sour curd in the middle
of a cheese and carefully made it over.
Owing to their system of regulation he
was able to have that cheese brought back
from England and to trace it back to the

pound, shrank less than 1 1/2 per cent. and
was perfect in flavor and appearance. No.
2, cured in an ordinary curing room with
temperature below 80°, was valued at 9 1/2
cents a pound. No. 3, cured in a room
where the temperature was allowed to
regulate itself, averaging 91°, was valued at
9 cents a pound, and shrank over 2 per cent.

Professor Robertson said the flavor of the
cheese was nearly always controlled by the
temperature at which the cheese was cured
and kept. He explained how a curing and
storing room of a properly regulated tem-
perature could be obtained for an outlay of
\$335, and the gain in merchantable value on
300 cheeses would be over \$400, while this
gain would last indefinitely as long as the
equipment was kept up to the right shape.

He referred to the work done by the
Canadian Department of Agriculture to
secure proper care in the handling and
transporting of cheese and butter, both on
cars and ocean steamers. They had found
much carelessness in taking the goods on
the steamers at Montreal and off them on
the other side, but by a threat to publish
the names of the steamers and lines on
which this occurred they had secured a most
marked improvement.

The president of the association in his
opening address said that the exports of
cheese from May 1 to Nov. 1, 1900, were
2,077,000 boxes, and the stock on hand made
in the year were 333,000 boxes, making
2,410,000 boxes available for export. Owing
to the higher prices of the season, the
cheese of 1899, but the exports of
butter were \$2,000,000 less than last
year. The exports in round numbers
amounted to \$30,000,000 for cheese and
\$5,000,000 for butter. They furnish to the
Mother Country 60 per cent. of her cheese,
and only seven per cent. of her butter.
Fully one third of the dairymen are not
making money, and they have not the
proper facilities for doing the best work,
and apparently do not care. They need to
turn over a new leaf now, with the begin-
ning of a new century.

Coarse Feed for Swine and Cattle

In the attempt to make our farm stock
very choice meat producers, concentrated
food has been fed to such an extent that the
animals have in many instances become
dependent upon fine foods for their growth
and development. It is possible to carry this
feeding to such an extreme that the animals
would be of little use if fed on anything else.
The feeding of concentrated food must
inevitably tend to weaken the vitality of
the stock and make them unfit for general
farm purposes. The stomach of cattle,
sheep, swine or other domestic farm
animal is fitted for the digestion of coarse
and fine food, and if by accident or design
other class of food are denied them that
organ must undergo some change. The
winter househous lambs which are reared so
carefully must be fed on rich, concentrated
food to produce tender, delicate meat, and
if coarse food was given to them they would
soon cease to grow. They are an artificial
product of the breeder's art, and in their
own of their own, but not for the farmer.

It would be mistaken economy for any
except choice breeders to attempt to bring
up their cattle, swine or sheep on any
limited grain ration. Both from the point

AGRICULTURAL.

Continuous Dairying.

In my experience in farming in all branches I have found dairying the surest of any. It is a permanent business that is always safe. You can hardly say this of any other line of farming. The grain crop, the apple crop or the cattle supply may all go to pieces because of bad seasons or poor markets, and a man is nearly swamped. Everything practically is lost and he will have hard work to get on his feet again. With dairying, however, this is not true. If milk and cream do not pay there is butter or cheese to fall back upon. If the grass crop fails a little planning and work will enable you to winter your stock without much loss. Indeed, one can even convert the milk and butter into good fat pigs and veals, if, for any other reason, there be no other sale or market for dairy products. There is, in fact, a great number of ways of making money on the dairy, which gives to it a certain surety of income that is very satisfying.

This, of course, always means that the dairyman must be progressive and up to date in his management. Dairying today is a continuous work that extends throughout the whole year. Merely summer dairying will not do. A man who expects to work in summer on the dairy and idle for the rest of the season will be disappointed in his returns. Continuous dairying is better in some respects than winter dairying. It distributes the work over the whole year and prevents it from accumulating in the summer or winter to discourage.

In order to make continuous dairying possible or profitable, the fundamental question of the whole industry must be intelligently considered. That question is related to the kind, variety and cost of the food. It must be settled definitely a year in advance. A man who does not plan out his campaign thus in advance cannot expect to meet with the rewards he thinks due him. How much grass for summer pasturing? How much for fall and early spring? What roots and grain for winter? What about the hay crop and the ensilage? These are the items that must be laid down and satisfactorily disposed of before any work is attempted. Estimate the number of acres required to support a cow the year round, and then increase the herd or decrease it to come within the limit. It is only by such system of the food question that one can hope to meet with deserving success. A haphazard way of having too much food one summer and not enough to keep the stock from nearly starving the next winter will hardly prove satisfactory. If proper attention is given to the little details of dairying, I believe it will prove the surest way of making a living on the farm. W. E. FARMER.

New Hampshire.

Dairy Notes.

The Iowa Experiment Station states in a recent bulletin, No. 53, their test of the amount of water absorbed by butter under different conditions, and they found that the butter held most water when the cream was quite cool, or at 52°, and the water in which it was washed was warmer, or at 70°. When the cream was warm, or at 71°, and the water was at 40°, there was but little water absorbed in the butter. We need a standard for butter which shall declare that there shall not be over 13 per cent. of water in butter, or at least 95 per cent. of butter fat, and the balance in casein, salt and other elements, including the moisture. Then we shall be sure of receiving what we pay for. We sorely care to spread our biscuits or our steak with either cold water or sour buttermilk.

One of the most remarkable instances of prodigiousness known is that of the famous Jersey cow, Adelaide of St. Lambert; she weighed when tested 1002 pounds, and in 31 days she produced 2033 pounds of milk or more than twice her own weight. She made 21 pounds 52 ounces of butter in seven days, and 82 pounds of milk in one day, 917 pounds in two weeks, or about 654 pounds per day for that time. There may have been larger records, but that is large enough for a Jersey.

At the Dairy Conference in August, Me., held the first week in December, there were 43 samples of dairy and 10 samples of creamery butter scored, with a most remarkable record in results. Taking 100 as the score of perfection in the dairy samples one was marked 98 points, four others 97 or more, four more 96 or above, eight others 95 or more, four from 94 to 94, two were 93, three were 92, one at 91 and seven at 91, three at 90 and only six below 90. Every sample was lacking in flavor. From two points in 50 in the first, down to 12 points in some of the lowest, but only three fell one point below in the 25 given for texture, 36 received the full 10 points in color, four only nine points, two had eight points and one but six points. The points were allowed for perfect salting to 40 samples, and three only received nine points, while of the five points for texture 41 were given the full amount and two received only four points.

This shows a large degree of skill in the manufacture and working of the butter, and the lack of perfect flavor may have been due to the character of the food, to some lack of care in milking or allowing the milk to remain too long in the udders of the stable, or possibly to milk or cream absorbing something to affect flavor after it reached the house. We think a most unusual amount of this trouble is the impurity of the water used in washing the butter or dairy utensils, for it is hard work to convince a farmer that the water from his well is not the sweetest and purest that ever gushed from the earth.

But the creameries did not make as good a showing. One scored 94 points, three 95, one 94, two 93 and one only 91. In all cases but the last the loss was entirely in flavor, that losing also in color and salting one point each. Where there are many patrons, it is not easy to make every one exercise that care in matters of cleanliness which is necessary to make butter perfect in flavor. Some may have an unpleasant flavor and others simply be lacking in good flavor, which last indicates a need of more care in providing good food.

When the practice of washing the buttermilk out of the butter in the churn was first begun it was charged that the flavor was washed out of the butter. We have no doubt that this was true, and that some of the rich nutty flavor was so taken out. It was then the custom not to try to ret the buttermilk out until the butter was nearly all gathered into one solid lump, and it required considerable churning in two or three waters to remove the buttermilk. Then few used water cooler than that in the well or spring, seldom below 45° to 50°.

When they had learned to begin the washing while the butter was in grains about as large as wheat kernels, and to use lead water at about a temperature of 40°, which chilled the butter, they found there was little if any loss of flavor, and if the water had a handful of fine salt to each gallon it required but one or at most two washings to get it free from milk, and we thought the flavor was improved or brought out more fully.

At the Indiana State Dairy Association meeting a short time ago one of the speakers of inspecting the books of a creamery, and he found that there had been paid to one patron \$6.73 for 1019 pounds of milk in June. This was the milk of three cows and tested 89 per cent. fat. Another man brought in the same amount from one cow, testing a little higher, and he paid him \$7.13, or the first received \$2.40 income from each cow in a month, and the one cow man received \$4.80 more for her milk than the other man's cows averaged. Probably this did not fairly represent the difference, for cows which give but 300 pounds each in June are not likely to give milk as long as one giving three times that amount. The one cow showed a fair profit, even allowing for good feeding, and the three cows would not pay for the feed they eat.

Some of the dairy papers are advancing objections to the farm separators upon the ground that the creamery needs the help and co-operation of all the farmers to keep up the supply of milk. But the farmer wants his skim milk for calves and pigs and poultry, and he wants it sweet and clean. Many of the creameries took no pains to give it to them in that condition. They were not willing to buy milk according to its butter fat until they found that they were likely to lose the patronage of those who had the best cows, gave the best food, and brought the best milk. Even now some of them insist on an "overrun," or a "raise" from the party they sell to, that reduces the profit of the farmer to increase that of the maker or owner of the factory, and some farmers have not liked that way of doing business.

Butter Market.

The lower rates at other points have forced prices of butter down in Boston, although we have a scarcity instead of a surplus of strictly fine quality. Buyers are not willing to pay over 22 cents in round lots or 23 cents for a few small lots of extra in assorted tubs, while 23 cents is the top figure for large tubs. Eastern has a range from 20 to 23 cents. First 20 to 21 cents and second 18 to 19 cents are more abundant, and shrewd buyers might get a discount from these figures. There are some lots of June creamery that touch 22 cents, but there is but little of this grade to be had, and the bulk of that from storage goes at 21 cents for extra and 19 to 20 cents for firsts. Many buyers prefer stock to fresh arrivals at same figures. Dairy in only moderate demand at 20 cents for Vermont extra, 17 to 18 cents for firsts, and 16 to 17 cents for seconds. Renovated butter dull now at 15 to 17 cents, and imitation at 13 to 15 cents, with sales 13 to 14 cents. Some lots were taken for export at 13 cents, and not much goes above that. Boxes and prints in fair demand at 23 to 24 cents for extra northern creamery, 23 cents for Western extra dairy 21 cents and common to good 19 to 20 cents.

The receipts of butter for the week were 12,140 tubs and 15,109 boxes, a total weight of 877,806 pounds, including 9516 pounds in transit for export, and with the latter deducted the net total is 868,292 pounds, against 843,194 pounds the previous week and 607,216 pounds the corresponding week last year.

The exports of butter from Boston for the week were 18,630 pounds, against 3721 pounds last year. From New York the exports were 6245 tubs.

Vegetables in Boston Market.

There is but a moderate supply of native vegetables and prices generally are firm. There may not be an absolute scarcity, but the dealers are not urging buyers to take large lots. On some varieties prices have advanced. We find beets and carrots steady at 40 to 50 cents a box, parsnips 50 to 60 cents, and celeriac 50 to 60 cents. White French are higher at \$1.25 to \$1.40, and so are yellow at \$1.25. While there are some native onions not bringing much over \$2.75 to \$3. Spanish in small supply at \$1.25 a crate and Bermuda in demand at \$2.75 to \$3. Lettuce at 40 cents a dozen, and radishes the same. Cucumbers steady at \$12 to \$14 a hundred. Green peppers \$2.50 to \$3 a case, of five baskets. Hot-house tomatoes 35 cents a pound, and Southern at \$2.50 to \$3.50 a crate, as to quality. Celery steady, but in small demand at \$4 to \$5 a box. Hubbard squash \$30 per ton, turban and marrow \$1.50 to \$1.75 a barrel.

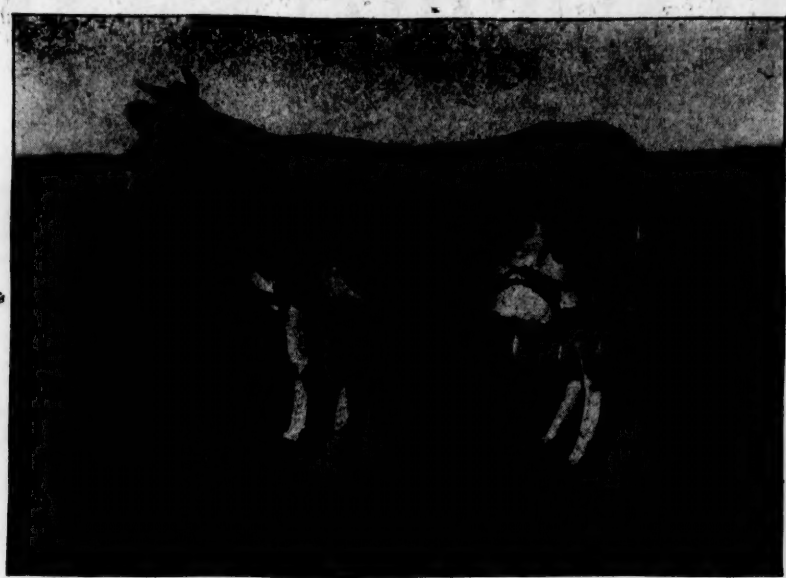
Cabbages are quiet at \$1 to \$1.25 a barrel, and sprouts 12 to 15 cents a quart. Beet greens at 75 to 85 cents a box and dandelions \$1.50. Lettuce \$1.75 to \$2.25 a long box, native spinach 50 cents a box and Southern \$1 to \$1.25 a barrel for good. Some poor lots sold from 50 cents upward as to condition. Parsley higher at \$1.50 to \$1.75 a box, and endive 60 cents. Egg plant \$2 to \$3 a case. Artichokes \$1.50 a bushel, and mushrooms 40 to 50 cents a pound. String beans fairly plenty at \$1.75 to \$2.50 a crate for both wax and green.

Potatoes in liberal supply and dull, with but little change in quotation, but an easier market. Arrowroot, Green Mountains 70 cents for extra and 65 cents for fair to good. Helicon 65 cents for extra and 55 to 67 cents for fair to good. Dakota Red 55 to 67 cents, York State white 60 cents for round and 55 to 58 cents for long. Western long white 55 cents, and round 55 to 60 cents. Sweet potatoes in light supply with but

"Brevity is the Soul of Wit."

Wit is wisdom. Blood is life. Impure blood is living death. Health depends on good blood. Disease is due to bad blood. The blood can be purified. Legions say Hood's Sarsaparilla, America's Greatest Blood Medicine, purifies it. A brief story but it tells the tale.

Hood's Sarsaparilla Never Disappoints



Little demand, at \$1.75 for Jersey double head barrel.

Domestic and Foreign Fruits.

The apple trade is dull, with receipts of 9067 barrels last week and exports of 7393 barrels. The amount left is ample for the wants of the trade. King are \$2.50 to \$3 and Spy \$2 to \$3. No. 1 Baldwin and Greening \$1.75 to \$2.25 and No. 2 \$1.25 to \$1.50. Taiman Sweet \$1.50 to \$2 and poor to fair looking 75 cents to \$1.25. Pears are scarce, but jobbers have a few in cold storage at \$3 to \$4 a box, as to variety and condition. Cranberries moving slowly at easier prices. Cape Cod choice dark \$3 to \$3.50, medium \$2 to \$2.50 a barrel; boxes \$2 to \$2.50.

Florida strawberries are in light supply at 60 to 75 cents a quart box. Florida oranges dull, and many in poor condition. Good to choice bright \$3.50 to \$3, russet \$2.25 to \$2.75, large fruit \$3 to \$3.50, small \$1.25 to \$1.75. Tangerines \$4 to \$5. Grape fruit \$5 to \$5.50 a box for choice and \$4 to \$4.50 for fair to good. Florida pine apples in moderate supply at \$3.50 to \$3.50 a case as to quality.

Boston Commerce.

Between Saturday, Jan. 13, and Feb. 1 there are 23 steamers scheduled to leave Boston for Europe, carrying about 2,750,000 bushels of grain. Twenty-three steamers in 19 days, and averaging more than 144,000 bushels a day. This will perhaps be about one-half their entire cargo, as cotton ship ments will be large, while provisions and live animals are important items on some of them. All excepting two are of the regular lines and they are divided as follows: Warren line to Liverpool, three steamers, 255,000 bushels; Dominion line, Liverpool, two steamers, 240,000 bushels; Wilsons line, Liverpool, two steamers, 240,000 bushels; Elder Dempster line, Liverpool, two steamers, 250,000 bushels; Holland-Boston line, two steamers, 240,000 bushels; Rotterdam-Alton line, Glasgow, two steamers, 200,000 bushels; Wilson line to Hull, one steamer, 50,000 bushels. Scandinavian-American line, one steamer for Copenhagen, 35,000 bushels. Conard line for Liverpool, one steamer, 120,000 bushels. Leland line to Liverpool, three steamers, 680,000 bushels. Johnston line to London, two steamers, 170,000 bushels, while it is expected that the two tramp steamers will take about 500,000 bushels together. Of course there may be some change in the schedule made according to the receipts of other freight whose shipment is more urgent or more profitable to the steamship companies, but we give them as now scheduled. Most of these steamers start from the terminals of the Boston & Maine railroad, and this promises to be a record breaking year both for that road and for the general commerce of Boston. These steamers vary in capacity from 12,000 tons burden to 7500 tons, and probably each will be loaded to its limit with grain and other exports.

New York Markets.

Native vegetables are in fair supply. Southern are generally plenty and in good condition. Havana vegetables generally poor and selling slowly, with Bermuda in better demand. Table potatoes in large supply, but many poor lots and prices have widely range. Long Island in bulk \$1.50 to \$1.75 a barrel, Jersey \$1.25 to \$1.50, State and Western, per 180 pounds \$1.50 to \$1.75. Bermuda No. 1 \$4 to \$4.75, No. 2 \$3 to \$3.50. Sweet potatoes at \$3 to \$3.25 for Vineland, \$1.75 to \$3 for other Jersey and 75 cents to \$1 for Southern yellow. Onions in only moderate supply but a light demand. Connecticut and Long Island, white \$3.50 to \$5, yellow \$2 to \$2.75 and red \$2 to \$2.50 a barrel. Orange County in bags, white \$2.50 to \$4, red \$2 to \$2.13. State and Western yellow double head barrels \$2.25 to \$2.50; per 150 pounds, yellow \$2.25 to \$2.50, and red \$2 to \$2.25. Bermuda \$2.25 a crate. Beets, Long Island, 75 cents to \$1 a barrel. Florida \$1 a crate and New Orleans \$3 to \$3.50 per 100 bunches. Carrots, washed, 75 cents to \$1, and unwashed 50 to 75 cents a barrel. Bermuda 75 cents to \$1 a crate. Roma turnips 70 to 80 cents for Jersey and 75 to 85 cents for Canada. Parsnips 75 cents to \$1 a barrel. Squash, Hubbard, \$1.50 to \$1.75 a barrel, marrow \$1 to \$1.25. Florida white 75 cents to \$1 a crate. Pumpkins 50 to 75 cents a barrel. Celery from 10 to 60 cents a dozen roots, as to size. Cabbages are steady at \$3 to \$4 a barrel for Long Island and \$14 to \$18 a ton for State. Two carloads of cauliflowerers from California; one sold well from \$2.50 to \$3.50 a case, the other was poor and went to \$1.25 to \$2. Florida baskets \$1.50 to \$2. Sprouts from 4 to 10 cents a quart, Norfolk kale 65 to 80 cents a barrel and spinach 75 cents to \$1.25, with Bermuda 65 to 75 cents. New Orleans, \$3 to \$3.50 a barrel, and Florida \$1 to \$3 for half-barrel baskets. New Orleans chile \$3.50 to \$4.50 a barrel, acornole, the same, romaine \$3 to \$3, or 75 to 85 cents a crate for Bermuda. Parsley from Bermuda \$1.25 to \$1.50 a box. Florida cucumbers \$2 to \$3 a crate and tomatoes \$1 to \$3.50. Havana at 75 cents to \$1.25 a carrier. Florida egg plants dull at \$2.50 to \$4 a barrel, \$1.25 to \$2 for half barrel crates. Peppers \$1 to \$1.25 a carrier,okra \$1.75 to \$2.25 a carrier for Florida and \$1 to \$1.50 for Havana. Green peas scarce and Florida baskets \$1.25 to

\$2 Spring beans mostly poor, with prices from 75 cents to \$2.25 a basket or crate, mostly from \$1.50 down.

Apples in large supply, but quality varies very much, and prices vary accordingly. Newtown Pippins \$1.25 to \$3.50 a barrel, Spitzenberg \$2.50 to \$4 Spy and Ben Davis \$3 to \$3, Baldwin, fancy, double head barrels, \$2.75 to \$3, average prime \$2.25 to \$2.50, and common to fair \$1.75 to \$2. Greenings running down in quality. A few fancy bring \$2.50 to \$3, and good to prime \$2 to \$2.50. Winter sorts poor to fair, \$1.25 to \$1.75. Grapes are dull, Catawba, small baskets, 8 to 10 cents and cases 75 cents to \$1.15. Cranberries in moderate demand, Cape Cod, large, late fancy \$9.50 to \$10 a barrel, good to choice \$9 to \$9.50, fair to good \$8.50 to \$9, Jersey prime \$7.50 a barrel, crates at \$2 to \$2.40 for fair to extra. Florida strawberries coming more freely and dull at 30 to 50 cents a quart box.

Sophie 7th of Hood Farm.

We present to the readers of this paper this week the first picture of a daughter of the bull Torino, owned at Hood Farm, Lowell, Mass., ever published. Her name is Sophie 7th of H. F., and a great little cow she is. She was dropped June 10, 1895, and had her last calf March 19, 1899, a solid colored, fine looking bull by Pedro Signal Landseer. With this calf she made an abject set of 16 pounds 4 ounces, on a grain ration of 9 pounds. It was divided up as follows: 3 pounds brain, 3 pounds corn meal, 2 pounds ground oats, 1 pound cottonseed meal.

Sophie 7th is a grand individual. She is a perfect type of a dairy cow, is an economical producer and a very persistent milker. Torino, her sire, has three daughters in the 16 pounds, including the show cow Flagg and Mabel. Torino is a full brother of Sophie Hudson, that gave in 10 months 11,496 pounds two ounces milk, testing 716 pounds 14 ounces butter. The dam of Sophie 7th of Hood Farm was Dame Quickly 4th. She was a cow capable of a good butter test, but was owned by a man who sold milk, and consequently she was never bred for a record. Dame Quickly 4th is by St. Heller Lowndes, out of Dame Quickly. St. Heller Lowndes is by Lord Darlington's Victor St. Heller, out of C. Mabel, 27 pounds, full sister to Lady Essex, 18 pounds 13 ounces. Lord Darlington's Victor St. Heller is by Lord Darlington, out of Pavon, a daughter of St. Heller. Dame Quickly was a very excellent cow. It was estimated that she made 6000 pounds of butter in a year. She is by a son of the Jersey Baie of Seldene bull Black Deference, and her dam is out of the imported cow Corona, 14 pounds. There is in the Hood Farm herd a full sister of Sophie 7th with a butter test of 14 pounds 34 ounces.

The Torino stock at Hood Farm is raised very highly, and it looks as though Sophie's Tormentor, setting cows that combine beauty with utility.

Export Apple Trade.

The total apple shipments to European ports for the week ending Jan. 12, 1901, were 39,619 barrels, including 25,214 barrels to Liverpool, 4313 barrels to London, 7695 barrels to Glasgow and 1830 barrels various. The exports included 7382 barrels from Boston, 6844 barrels from New York, 33,999 barrels from Portland, 755 barrels from Halifax and 653 barrels from St. John, N. B. For the same week last year the apple shipments were 35,993 barrels. The total apple shipments since the opening of the season have been 1,075,878 barrels, same time last year 1,037,378 barrels. In detail, the shipments have been 366,192 barrels from Boston, 194,287 barrels from New York, 156,479 barrels from Portland, 465,958 barrels from Montreal, 197,558 barrels from Halifax, 90,801 barrels from Annapolis and 3866 barrels from St. John, N. B.

Boston Fish Market.

The market is a little stronger this week, with a quiet demand and fair prices. Some fancy fish are short, but on the whole the market is fairly supplied. Market cod are in fair supply at 24 to 25 cents, with large at 23 to 34 cents, and steak at 44 to 54 cents. Haddock is bringing 34 cents. Hake are not so plenty, large bringing 34 cents and 2 cents for small. Pollock is steady at 14 to 2 cents, with cusk at 2 cents. Bass are in light supply at 20 cents for striped, 10 cents for sea, and 8 cents for black. Halibut is steady at 15 cents for white and 12 cents for gray, with bluefish at 15 cents for green and 8 cents for frozen. Spanish mackerel steady at 15 cents, sheepshead 15 cents, compango 11 cents and red snappers 10 to 15 cents. Lake trout are stronger at 13 cents, with cent at 6 cents. Whitefish is bringing 10 cents, with perch steady at 12 cents for sea and 6 cents for white. Pickerel in full supply at 13 cents. Smelts are easy at 10 to 14 cents for native and 4 to 6 cents for Eastern. Hells are 8 cents. Fresh tongue 10 cents and cheeks 8 cents. Salmon are quite steady at 50 cents for Eastern green and 15 cents for frozen, with Western at 8 cents. Oysters are steady in fair demand at \$1 for Norfolk, \$1.15 for selected Norfolk, \$1.25 for fresh openers, Stammers, and \$1.25 to \$1.50 for Providence rivers. In the shell Blue Point \$2 a bushel. Clams are not so plenty at 50

cents a gallon, or \$2.50 to \$3 a barrel. Shrimps 50 cents a gallon, and scallops 50 cents to \$1 a gallon. Lobsters are steady at 15 cents alive and 17 cents boiled.

Dairy Records.

[Paper by Samuel E. Watson, San Francisco, at the annual convention of the California Dairy Association.]

I have learned from my own experience that bookkeeping must be adjusted to the nature of the business and simplified as much as possible for limited operations, and have learned that careful records are essential, however small the business may be. I believe this so firmly that in starting a miniature dairy as a foundation for an increase, I have undertaken to weigh the milk from each cow morning and evening, and take weekly tests of the butter fat. It does not seem feasible to charge the cost maintenance separately, and I propose to set this by estimate at the end of the year, when comparing total outlay for feed with recorded value of products.

B. B. Gurley, a successful Eastern dairyman, suggests that if the milk cannot be weighed at every milking, it may be weighed periodically for three successive days in each month, or four times a year, and the composite test be made. He says that a reasonably accurate record may be kept by this occasional test, and that by comparison with the actual sales it may be varied.

It seems to me that after the milk from an animal has been weighed and tested for a season, and its yield determined, that an occasional test is sufficient. It is not likely that the percentage of fat will vary from year to year, therefore superficial records of the yield from a cow which has been thoroughly tested seems to be all that is necessary, but the close test suggested should be made after the animal has reached maturity.

The advantage of knowing the value of every cow is too apparent to require discussion, but there are secondary advantages which may be mentioned. While it is a satisfaction for the owner to know the earning capacity of each individual in his herd, the fact that he begins to keep a record will educate him in dairy principles. If the test proves him to be wrong in his fixed beliefs, the next step will be made in searching out the reason, and this opens a wide field for study, with the ultimate result that he will be taken out of the old routine for the mutual benefit of himself and his cows.

Others than the family may be interested in the herd, and the keeping of records gives the wife and older children an insight into affairs of the dairy. A son or daughter will often be ready to keep the accounts for a moderate compensation, and in these days of commercial education in the schools a great deal of waste energy may be utilized in this way to the mutual benefit of all concerned.

It is often a problem as to the future of the boy or girl, and they are usually allowed to drift into any employment that may offer when at the working age. I believe it is better to give them something to do at home, just as soon as they can be made useful, and also to compensate them as an inducement to persevere. In addition to keeping the records, they may be given the feeding and chemical problems to solve, thereby applying some of the school studies in a practical way in which a moderate salary is an incentive to continuous and increasing effort. The dairy business includes so many practical and scientific questions that the most ambitious boy or girl can stay right at home and find satisfactory employment.

Saddle Horse Gait.

In the New York department of a recent number of the BREXER, after speaking of the strong demand for saddle horses and of the riding schools, Mr. Watson says: "At almost any hour of the day can be seen the out door classes taking their lessons in the park, but, oh, my! what a rough going set of saddle horses are seen there, too. Some of the young ladies who are gamely determined to ride are really and truly paying dearly for the privilege, for with the English cry: for a trotting and cantering horse, instead of the easy riding Kentucky galloped horse, they are shaken up worse than a soldier on a gun carriage traveling over a rocky road on a gallop." In England they ride a trotting and cantering horse, for there are no galloped ones there. The well American rider a trotter because it's English. Although he will invariably tell you it is because he needs all of the exercise he can get, but woe on selecting a horse he looks for the one which has the easiest trot and canter.

The riding teachers discuss the use of the galloped horse, for it requires but little skill or teaching to ride him, so the more difficult the gait the more lessons required by the pupil. A riding instructor who called on me a short time ago inquired "Who sold that horse to Miss W—?" with the remark "She has only taken four lessons, and she should have taken 24 before she ought to ride alone." And when I told him that I sold her the horse, and that he would so all of the gait, including the single foot, he said: "I don't teach one to ride that gait, for any little girl can ride a single foot, and then she can soon ride a trotter, and that would spoil my business." The academics make much of their money by selling horses to their patrons. About all that is required to make one of

THE STYLISH ENGLISH SEAT.

The English kind is to cut off his tail, teach him to canter, which is frequently done in a few hours, and he is ready for the customer. It requires a great deal of time to properly educate and develop a galloped horse in this part of the country. In parts of the West and South, where nearly everybody rides, the gait is easily taught while the horse is going to town, driving stock, or in his regular every-day work.

The English rider sits far back on the saddle and supports his legs by short stirrups, attached near the front of the saddle, and hangs on to the reins to keep his

balance. He claims that a short stirrup gives a more secure seat, while our Western riders, and a long stirrup attached near the center of the saddle, it enables them to ride without the least support from the reins. The position on horseback should resemble the position when sitting on a high stool.



THE CORRECT SEAT.

rather than on a low chair. On the chair the weight is supported on the seat and the spine has a tendency to curve outwards and the shoulders and chest to drop forward. On the stool the legs hanging down, the weight is supported more directly under the hips, the spine curving inward and the head and shoulders are more easily thrown backwards.

The point on a horse where the least motion is imparted is about half way between the point of the shoulders and the coupling, just over the central point of all four of the horse's feet, therefore the saddle should be placed where the riders weight would be most equally distributed over this point. Like a see saw board or a rocking street car, the least motion is in the center of the board or car, and it is important that when the rider's weight is transferred to the stirrups, it should not thereby be transferred to another point, so the attachment of the stirrups should also be near the center of the saddle. In riding to the trot on an English saddle the constant shifting of the weight greatly interferes with the equilibrium of the body. The legs should hang nearly straight down and not be permitted to work along the sides of the horse. I can understand why the American dais objects to the galloped horse, for the Prince of Wales doesn't ride that kind, but I can't quite understand why a sensible American who rides a trotting and cantering horse should object to a galloped one which takes the same gait as his does, with additional ease.

My way of thinking is that the more accomplishments a horse has the better. The different gait is simply accomplishments to be used at the will of the rider and are not obtrusive in any way, simply an ability to be called on when desired. I take pleasure in riding a trotting horse; have ridden 25 or more miles in a day at that gait; many times I also enjoy the other gait and appreciate the comfort derived from using the educated saddle horse. Very few people in the East have ever ridden a thoroughly trained galloped horse, consequently don't know how to appreciate one of that kind.

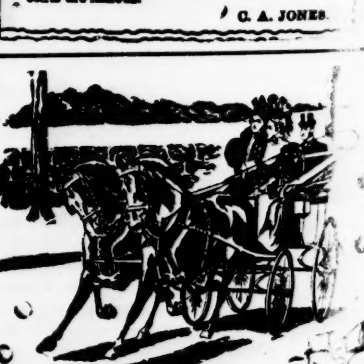
Not long ago a gentleman from a neighboring city purchased a couple of horses, one a first-class trotting and cantering saddle mare, the other a galloped horse. About a month later I met him, and he said, "I have sold that mare and am now riding the easy gait for pleasure. I tell my friends when I want exercise I will swap."

A horse to be eligible to the galloped show ring must possess the following five points, which he will take at the will of the rider, without mixing. First is the flat foot walk. Second is the slow gait, of which there are three kinds, i. e., stepping pace, running walk and fox trot, all are recognized under the distinction of "stealing away," and there is little choice between them; either one answers the requirements of the show ring. Third is the canter. Fourth is the trot. Fifth and last is the single foot, or rack, as it is termed in the South and West. When selecting a galloped horse this last gait is the one above all to watch and see that it is properly done, for the galloped gait is very frequently palmed off for the single foot, which in my opinion is the least desirable gait a riding horse can take. In the square or pure trot, a horse strikes diagonally a forward and a hind foot on the ground in exactly the same time. In a true pace both feet on a side strike at the same time, so when you count one, two, all of the four feet have hit the ground. The single foot is a sort of a combination of the trot and pace, the feet striking the ground one at a time, or singly, so you count one, two, three, one, count the revolution is complete. If properly done the hoof beats will be in regular even time. Buffalo Bill says, "No rider in the West hangs on to the bridle when giving anything about park riding from personal experience, but I don't imagine anything more uncomfortable than an English saddle, a short stirrup and an English trotting horse for a man who has to ride for only pleasure." GEORGE S. CLARK.

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 G. A. JONES.



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Require everything to be in keeping, a stylish carriage, a showy harness and a pair of thoroughbreds is not all that is necessary. A horse to be active, stylish and serviceable must be well. You should feed properly, not allow the hair to grow beautifully by using Woodwin & Co., Boston Agents.

POULTRY.

Winter Eggs Layers.

There are many don'ts for those who raise eggs for winter to follow, but along with them there are plenty of things to do which are probably neglected through carelessness more than anything else. It is easy enough to say don't do this or that, but it would be more to the point to say what to do. The egg layers are now in particular evidence on the farm, and every owner of poultry is counting the number of eggs laid. It is quite necessary to the success of the business that this should be done. If there is no anxiety about what they are doing they are very apt to be neglected and their common every day needs overlooked. There is nothing so important at this time of the year as that of guarding the poultry against colds. The forerunner of a cold, and when it once starts among the egg layers it is death to the profits for that season. Some seem to think that colds and colds are not related, and as a result they shut up the houses for the winter and keep the hens from every cold wave. There is danger in this, because poorly ventilated houses will cause colds more than a cold house. The next great cause of colds is dampness. Let this collect in the henhouse, and give poor ventilation, and the results will be inevitable. Poultry can stand extremes of cold weather as well as human beings, but they cannot live in close, damp houses winter or summer without getting the roup. The next important point to observe is to keep the fowls exercising. They are apt to overfeed in their winter quarters and to come lazy as a result. They should be made to take exercise. If they refuse to do it feed them less and make them scratch and hunt for their food every morning. Overfeeding is one of the surest ways to make lazy fowls, and lazy fowls are generally poor egg layers. It is better to keep the birds a little short of food rather than overfeed them. They will be better for it later, and if green food, shells and lime forming foods are given in abundance, they will lay better. Fattening food is not the ideal one for their winter ration.

A. H. W. WEBSTER.

Poultry and Game.

The receipts of poultry have been liberal during the week, though choice fresh-killed chickens and choice small hen turkeys are not very abundant. Fresh-killed large chickens bring 14 to 15 cents and fair to good 9 to 11 cents. Fowl are 11 to 15 cents for extra choice, and fair to good 9 to 10 cents. Ducks 12 to 15 cents and geese 10 to 13 cents. Pigeons in good supply at 75 cents to \$1 a dozen and squabs all the season at \$1.75 to \$2.25. Western dry packed chickens are 11 to 15 cents for choice and 8 to 10 cents for fair to good. Fowl 8 to 10 cents and old roosters 6 cents. Choice turkeys are 11 to 12 cents for drawn, 11 to 12 cents undrawn, with young toms at 9 to 10 cents and fair to good 8 to 9 cents. No. 2 at 7 cents. Ducks 10 to 12 cents and geese 8 to 9 cents. Live poultry, fowls scarce at 10 cents, chickens more plenty at 9 to 10 cents and old roosters 6 cents. Game moving slowly, but prices are steady. Choice duck grouse 90 cents to \$1.15, but most at \$1.10 to \$1.15, while light are 60 to 80 cents, with 75 cents the prevailing price. A good supply of quail at \$1.75 a dozen for choice, and others from \$1 to \$1.50. Wild ducks steady with fair demand for choice heavy birds. Canvas backs \$1.50 to \$2.50 a pair, red head \$1.35 to \$1.50, black 80 cents to \$1, mallard 75 to 90 cents, and teal 50 to 60 cents. Rabbits in fair demand. Western at 15 to 20 cents a pair, and jacks 40 to 60 cents.

HORTICULTURAL.

Orchard and Garden.

A writer in the New England Grocer says it is a fact that New England has shipped more than 500,000 barrels of apples to the Western States this year. That seems like carrying coals to Newcastle, after all we have read about the great orchards there, but the fact is a proof that there are no apples grown that have a reputation for good flavor and long keeping qualities equal to those grown here in New England among the rocks.

We have been informed that much of the Paris green sold in the past season was found to have been adulterated with those who used it in spraying either in the orchard or potato field found it to fail to destroy the insects, and doubtless it was experience with this stuff that led one writer to assert that it had been used so long that the bugs had become accustomed to it and immune to its poisonous effects, as do those who are known as arsenic eaters. The worst report comes from the California station, which says they found three kinds there, one being bogus and absolutely worthless, another so badly adulterated as to be nearly useless, and the third of a low grade which might be effective if enough were used, but when used according to the usual directions would be of little value, as the spray would be too weak to do any good. Pure Paris green cannot well be sold now for less than 30 cents a pound, while some are said to have sold it for 12 cents, but if the price is to be taken as a criterion in buying, the chances are that one might pay the higher price and get the poorer article. This is worse than picking a man's pocket because the buyer does not know the value of the stuff, and the crop of fruit or vegetables. There should be a guarantee of the strength with every pound sold, or farmers should buy the pure article and make the arsenic of lead for their own use.

The cultivation of mushrooms seems to be on the increase very rapidly, and their sale is also increasing, as the prices are still well maintained. A Long Island grower says there is profit in them, even when the wholesale price is 25 cents a pound or less, and some have gone into the business in pits or caves made for the purpose, and others in cellars under barns and even in the house cellar.

Experts claim that a bed 15 feet long can be made for \$10 and should yield about \$70 worth of mushrooms in three months. He would want those figures verified before going into the business, but it is said that many buyers have engaged in it, and the work is light, and the strength, and the whole takes them to market in a basket or in a car would receive about as much money as her husband would for a horse and even then we should prefer to keep the

ground in some hard crop during the summer that we might not stimulate a rain growth in the fall, but have the nitrogenous crop to plow under in the spring to start an early wood growth and to promote the growth of fruit.

But in a young orchard we do not think it well to apply much nitrogen in any form, not even as organic matter, and to grow a green crop of clover or other nitrogen producing plants to be turned under on July or August we think would weaken the trees decidedly by starting a soft growth in the fall which would winter kill, and if a limb killed by freezing on a tree is not as bad for it as a frozen limb on a man the cases are analogous, and we prefer to avoid the chance.

A crop of rye, or even of oat or flax turnips sown in summer or early fall, the first to be plowed under when green in the spring and the other two to winter kill, but to leave enough there to cover the ground and to hold the snow, we believe to be better for a young orchard than a nitrogen bearing crop. While they do not increase the nitrogen they use it in the fall, and by their decay return it to the soil to become available when most needed in spring and early summer, while at the same time they add to the organic matter in the soil and thus improve its physical or mechanical condition, enabling it to hold a more moisture, and making it light and friable that roots may penetrate it.

As these crops require mineral fertilizers to make good growth, acid phosphate and potash should be used liberally on them, and if the soil is light, nitrogen sparingly, while on strong soil none need be used. This is such an application as we think is generally needed for a vigorous and healthy growth of wood on young trees, vines and bush fruits, and we think they are many times badly injured by the use of too much nitrogenous fertilizer.

The fact that plum trees always thrive, bear well, and that the fruit is uninjured by the curculion when they stand in a hen yard, is so well known that we scarcely need to call attention to it, but not one half the hen yards that we see have any. If we had a yard 10 feet square we would have two plum trees in it, choosing two different varieties, as the plum is not always self fertilizing. The chickens keep the grass down, so there is no harbor under the trees for insects, and if they come from some other place a little less the tree brings them to the ground, and the fowl bury them. In a crop where there is no resurrection. As to varieties of plums, if there is any kind known to do well in that section, and to be free from rot or mildew and from black knot, get it. If not, try some of the Burbank, or the Abundance, both of which seem to have proven good in many localities and on many different soils.

Horticultural Hints.

Recently the attention of the writer was called to a tree that had a number of the lower limbs cut away, in order to give more advantage to grass and flowers desirable on the lawn beneath. The object was a good one. But all the branches had been cut to stumps projecting about six inches from the trunk of the tree. It would puzzle any one to give a rational explanation as to why these stumps were constructed. What purpose did they serve? The good gardener would have cut the undesired branches close to the trunk. New wood and new bark would then grow over the scars. But the stumps will rot, and the rotten wood can sound hollow to follow suit. The tree will become hollow and worthless in a few years.

In southwest Florida, some of the most advanced vegetable growers use sprouts largely for producing early potatoes, instead of sets, as is customary farther north. The "seed" potatoes are put in starch or similar boxes—and, when the sprouts have appeared in abundance, are taken off, and set out, just as further north they do with sweet potatoes.

In a recent issue a correspondent refers to a potato that had grown the second year. He possibly intended to convey the idea that a potato had remained in the ground a whole year without sprouting, and then grew the second season. This would accord with experience. If below the reach of atmospheric air, or the temperate too low, it might live several years without sprouting—any live vegetation will remain dormant for an indefinite number of years under ice, or probably in any cold storage vault, as the late Robert Douglas and others have proved by actual facts. It would be a new and very remarkable fact if a potato, once sprouting, and giving up all its stores of food to the new growth, should be able to perform the same office another season.

Cabbage is easily kept all winter by being buried in the ground head downward.

Miles on Miles

Are walked by the billiard player, as he moves around the table. That is the only exercise many a city man gets. It is this lack of exercise in the shut-in-life of the city, combined with irregular eating and indigestible dishes which tend to make the city man the victim of "stomach trouble."

When there is undue fullness after eating, with belching, sour risings and other distressing symptoms, a prompt use of Dr. Pierce's Golden Medical Discovery will effect a speedy cure. In the most extreme cases of disease of the stomach and other organs of digestion and nutrition, the persistent use of the "Discovery" will result in a complete cure in ninety-eight cases out of every hundred.

"The praise I would like to give your 'Golden Medical Discovery' I cannot utter in words or describe with pen and ink," writes James B. Ambrose, Esq., of 123 1/2 Millin Street, Huntington, Pa. "I was taken with what our physicians said was indigestion. I doctored with the best around here and found no relief. I wrote to you and sent you a question blank to fill out. I did so and you then advised me to use Dr. Pierce's Golden Medical Discovery. I took three bottles and I felt so good that I stopped—being as I think, cured. I have no symptoms of gastric trouble or indigestion now."

Dr. Pierce's Common Sense Medical Adviser is sent free on receipt of stamps to pay expense of mailing only. Send 21 one-cent stamps for paper covered book, or 31 stamps for cloth bound. Address Dr. R. V. Pierce, Buffalo, N. Y.



CELERY.

Select the most firm heads, cut off the root smoothly and pack them in piles much as apples, turnips or similar things are treated. When removed, a few leaves may be found spoiled, and it will be necessary to thoroughly cleanse the whole head, tearing off each leaf before boiling the head, as a small brown worm, easily detected, is liable to work its way in among the leaves. The flavor is perhaps not quite as fine as when the heads are fresh, but the lower of cabbage will readily excuse this in order to get a right good dish at such a season.

The practice of making flower beds of graves is happily becoming obsolete, though but slowly. Under regulations quite generally adopted in recent years, mounds are not permitted, which encourages a better appearance under all circumstances. Mounds naturally shed water, resulting, as a rule, in sickly and weak plants where they are placed in that position. Not recognizing the cause, many persons are annoyed and puzzled by their non-success. Without mounds, the sod or plants above the grave have at least equal chance with the surrounding sod to get all the benefit of moisture and food in the soil that there may be.

But as regards flowers or plants on the mounds, under few circumstances do they look in place. How much better is it to give thought to the appearance of the whole plot, making permanent beds along the margins, using graceful outlines, place a few individual specimens where space will permit, either dwarf evergreen or flowering shrubs. Use hardy plants where ever possible. Annuals are pretty in a way, but it is rarely possible to give them the condition and attention they require. A person with the artistic instinct and practical experience of a good landscape gardener could surely make great improvements in the usual methods of treating individual lots. Doubtless we are all more or less responsible for this, for our sentimentality calls us to personally attend to these duties, which for lack of constant attention might better be placed in professional hands.—Meehan's Monthly.

New Formula for Spraying.

Trouble is sometimes experienced in spraying with Bordeaux mixture with the solution of the pump action. Professor Prilleaux, National Agronomic Institute, Paris, strongly recommends sequestrate of copper in place of both Bordeaux mixture and ammoniacal solution of carbonate of copper for use as a fungicide and germicide in spraying. The formula is as follows: "For 25 gallons of the spraying liquid dilute and make into 'milk of lime' four pounds of quicklime; dissolve four pounds of molasses in a gallon of water and mix with the milk of lime. This will make a solution of 'sequestrate of lime.' Stir thoroughly, and let stand for a few hours. Next dissolve four pounds of limestone in eight gallons or 10 gallons of water, and pour into it the lime-molasses solution, while stirring briskly. The mixture becomes very turbid with the gypsum formed, which may be allowed to settle, leaving a clear, greenish solution of 'sequestrate of copper,' which may be drawn off from the sediment, thus obviating all danger of clogging the spray nozzle and mix with the milk of lime. This will make a solution of 'sequestrate of lime.' Stir thoroughly, and let stand for a few hours. Next dissolve four pounds of limestone in eight gallons or 10 gallons of water, and pour into it the lime-molasses solution, while stirring briskly. The mixture becomes very turbid with the gypsum formed, which may be allowed to settle, leaving a clear, greenish solution of 'sequestrate of copper,' which may be drawn off from the sediment, thus obviating all danger of clogging the spray nozzle and mix with the milk of lime. This will make a solution of 'sequestrate of lime.' Stir thoroughly, and let stand for a few hours. 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